## **Fire Station Building** Committee



Richard D. Carney **Municipal Office Building** 100 Maple Avenue

## **Town of Shrewsbury** MASSACHUSETTS 01545-5398

February 24, 2006

To:

Board of Selectmen

From: Bruce R. Card, Chairman Fire Station Building Committee

Re:

Meeting with Board of Selectmen - Monday February 27, 2006 at 7:45 PM

The Building Committee wishes to meet with the Board at your meeting on Monday night for the purposes of making an interim report on our progress since we last met on February 2, 2006.

Enclosed are our minutes from our last meeting together with support materials and documentation.

Cc

**Building Committee** Kaffee Kang

#### FIRE STATION BUILDING COMMITTEE February 23, 2006

Present:

Bruce Card, Pat Sacco, Ralph LeBlanc, Robert Cox, Gerald LaFlamme,

Daniel Morgado

Absent:

Anthony Mastromatteo

Also present: Kaffee Kang

Call to Order at 7:02 PM.

On a motion by Mr. Cox second by Mr. Sacco, the Committee voted to accept the minutes of February 2, 2006.

Chief LaFlamme proceeded to make an extended presentation on the organizational structure, operations and rationale of station locations (see attached).

Ms. Kang presented several items for consideration of the Committee as follows: (see attached for additional information, schemes, estimates, etc.).

- o Fire Headquarters Committee agreed to proceed in concept with a back-in (4) bay station as shown on the site plan dated February 23, 2006. Additional details and budget development to occur over the next two weeks.
- New Fire Station #3 The Committee reviewed two schemes and various construction alternatives. Building to be located on CentTech Blvd. Consensus was to develop the project with Scheme B; Construction Options 1a. Additional details and budget development to occur over the next two weeks. Additional pricing to be sought for geotechnical work.
- Station #2 The Committee reviewed the work necessary to increase the door height to thirteen feet. Purpose of the study was to ascertain what would be the cost to just raise the doors to accommodate the new aerial. Additional details and budget development to occur over the next two weeks.

Mr. Card proceeded to open to the floor for comments and a question and answer period ensued.

On a motion by Mr. Sacco, second by Mr. Leblanc, the Committee voted to accept the Kang Associates Station #3 at CenTech Blvd proposal dated February 13, 2006. Funding to be taken from the Fire Facilities Gift Account (balance \$168,000).

The Committee will meet with the Board of Selectmen at their next meeting on February 27, 2005.

The next regular meeting of the Committee will be March 9, 2006 at 6:00 PM.

The meeting adjourned at 9:07 PM.

Respectfully submitted,

Daniel J. Morgado Town Manager

## Shrewsbury Fire Department

Structure Operations Locations

### Personnel

Headquarters

Harrington Ave

Rt. 20

- > Chief
- > Secretary
- > Barnman
- > Captain

Private

Private Private

> Private

Private

Private (10%) > Private

## Equipment

Headquarters Harrington Ave

Rt. 20

Engine 1 Rescue

Engine 2

Engine 3

Ladder

Engine 4 Hovercraft

(Eq. Trailer)

Pickup

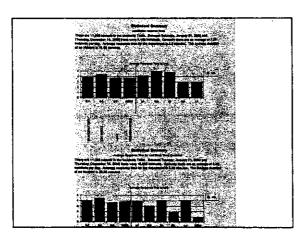
(Ambulance) (Car 14)

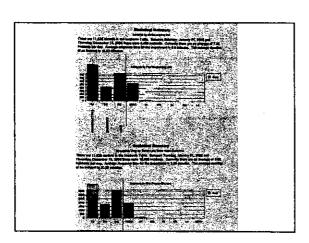
Car

Eq. Trailer

## **Operating Rules**

- > Medical Service is delivered with a single apparatus (and ambulance)
- > All other service delivered with two apparatus responding
- > Firefighting service is delivered with all three stations responding

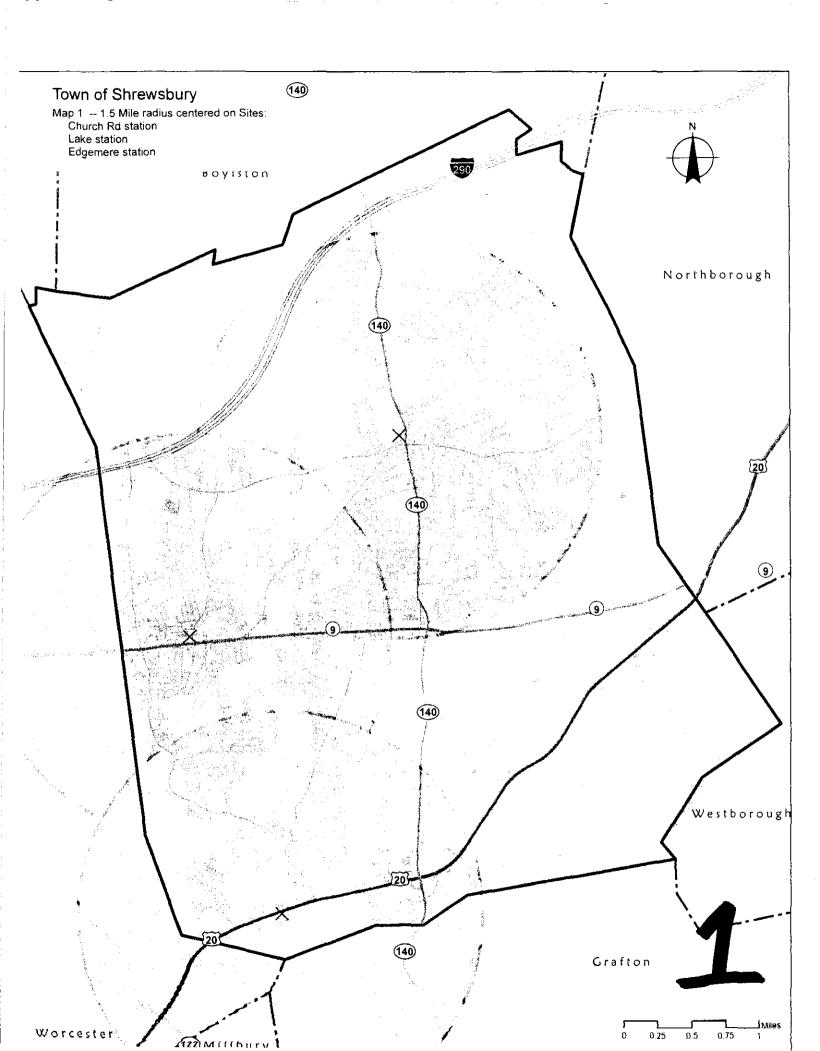


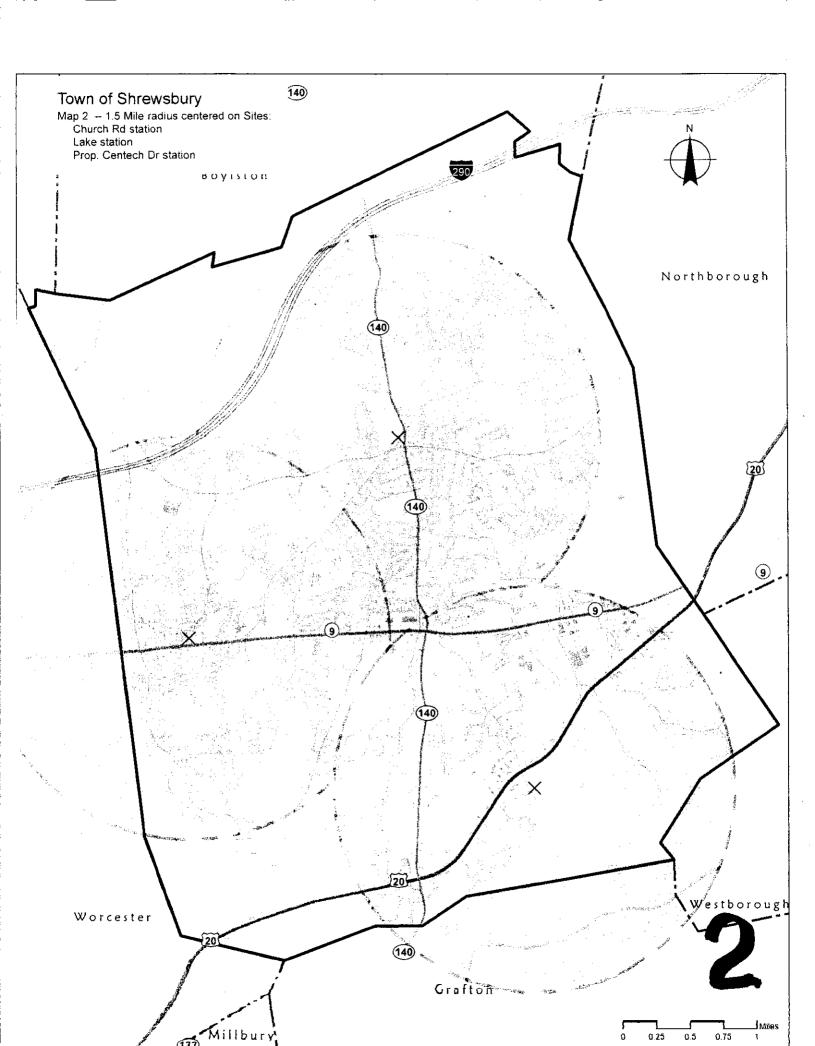


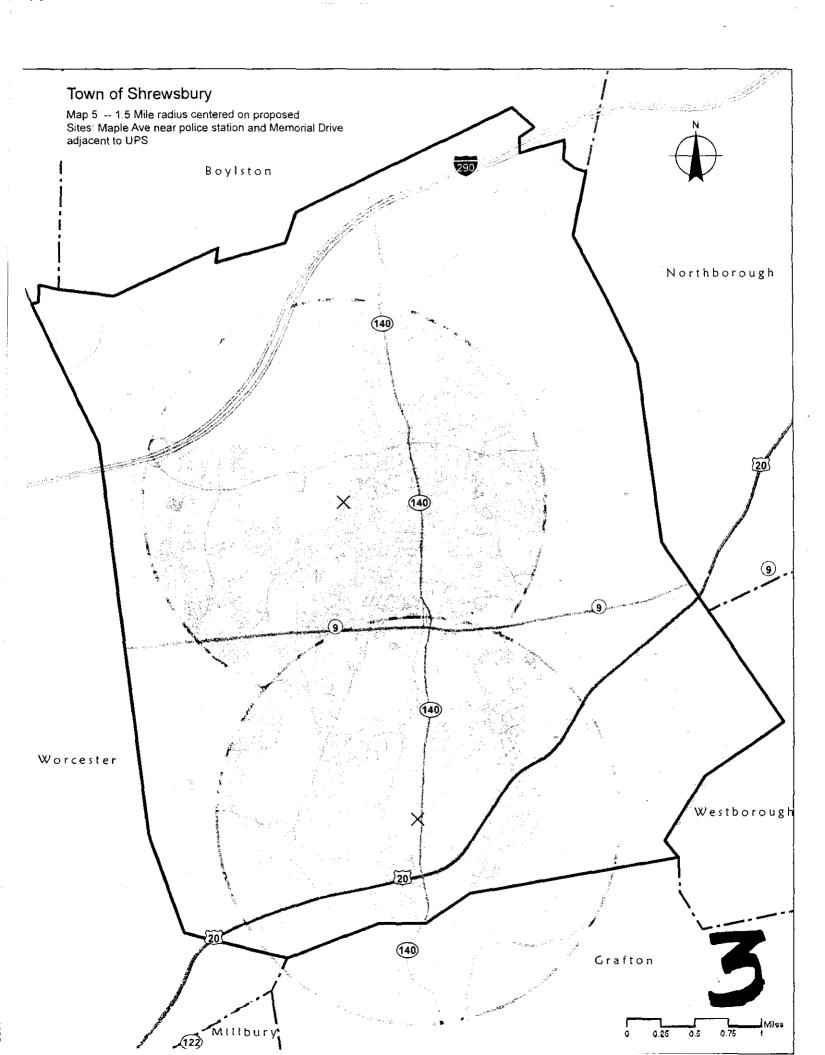
## **Emergency Responses** First Due at Responses in 2005 Headquarters Harrington Ave Rt. 20 > 1150 **8**75 450 4.45 min > 3.80 min 3.70 min First Due at Responses in 2002-2005 Rt. 20 Headquarters Harrington Ave 3700 > 4800 1800 > 3.80 min 3.60 min 4.5 min **Emergency Responses** Average Duration of incident 20.33 minutes (receive call to sign on available) Return to station and return truck to in-service condition 20 minutes for medical 3 hours for fire call Fire Related Activities > Inspections • liquor establishment inspections, 1 per year · School inspections, 5 per year . 1000 home inspections • 250 oil burner installation inspections · Carbon monoxide detector inspections · ALL residential units in town · Business Inspections

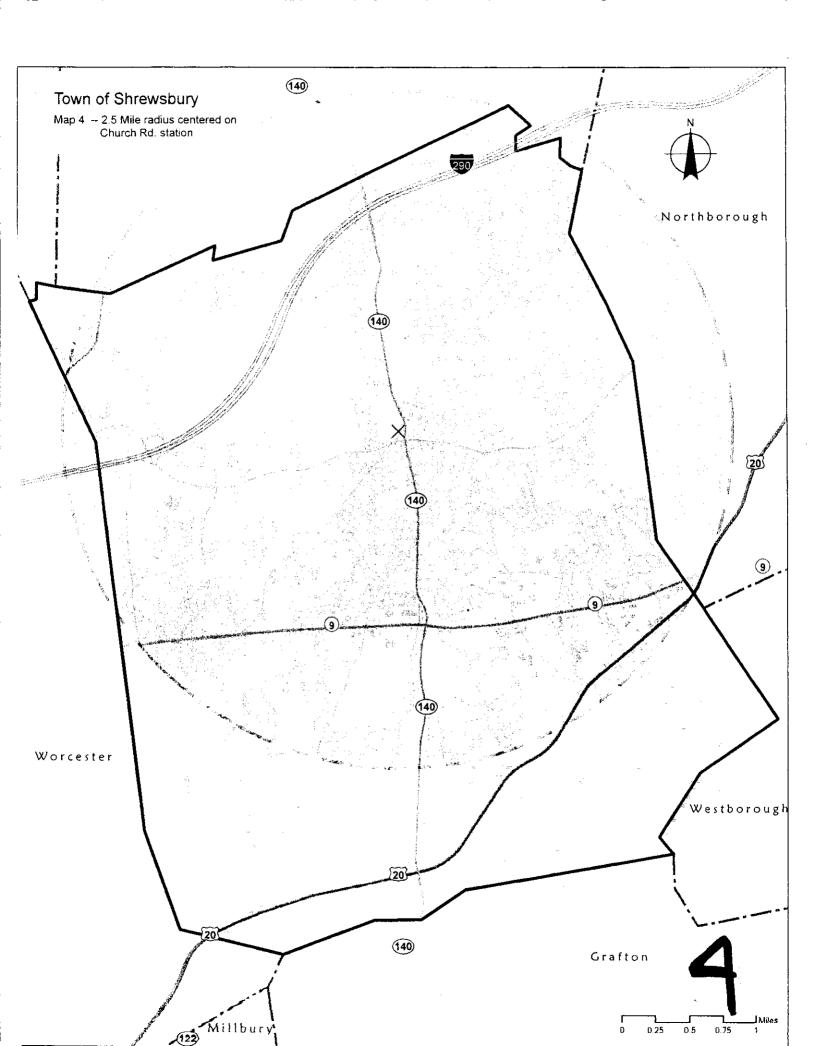
Fire Related Activities	
Training	
EVERY firefighter receives over <b>120</b> hours of related training annually	
Firefighting Confined Space  Medical Ropes High Angle  Hazardous Material Safety  New Laws Weapons of Mass Destruction  Decontamination Extrication	
Factors in Locating Stations	
Regulatory Guidelines (effecting Insurance Rates)	
➤ ISO — Each station serves a 1 ½ mile radius Aerial serves a 2 ½ mile radius	
NFPA — Every house should be within 4 minutes of a station Law	

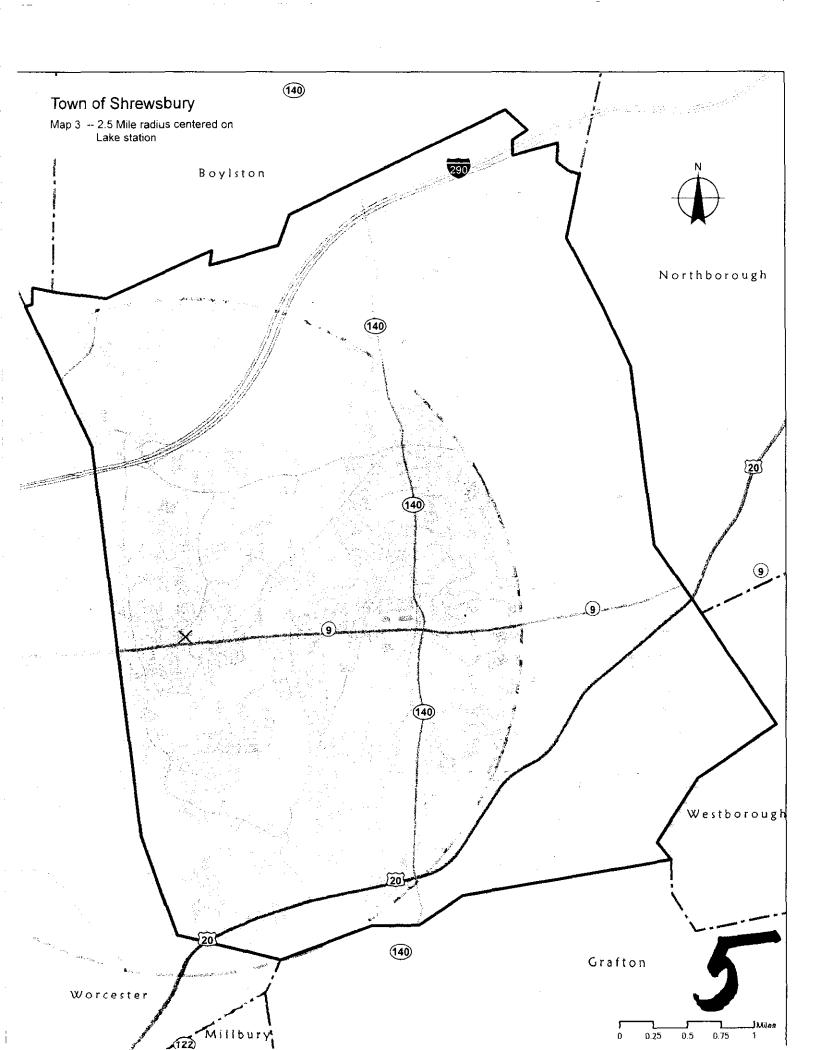
1 fire truck and 1 ambulance







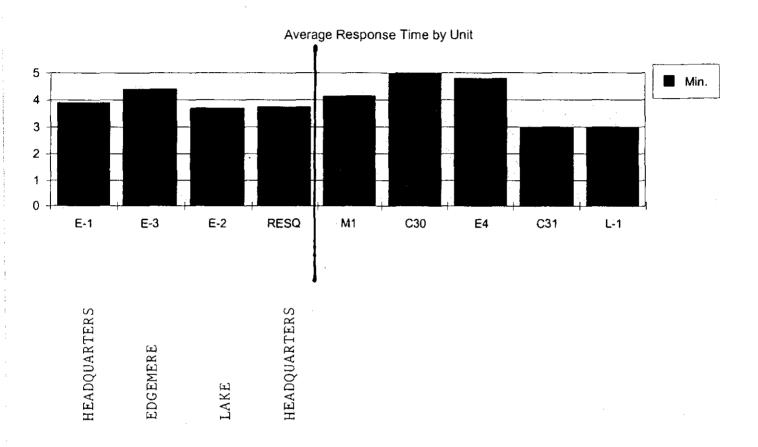




## **Statistical Summary**

Unit/Station response times

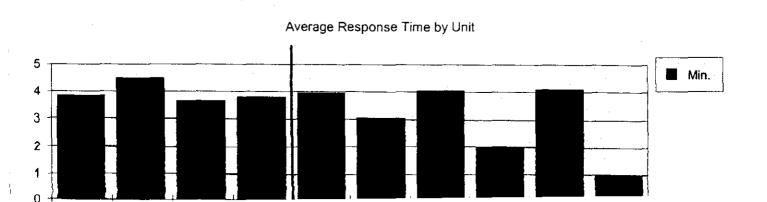
There are 11,035 records in the Incidents Table. Between Saturday, January 01, 2005 and Thursday, December 15, 2005 there were 2,459 incidents. Currently there are an average of 7.05 incidents per day. Average response time for the department is 3.9 minutes. The average duration of an incident is 19.82 minutes.



## Statistical Summary

Average Response Time for Last Three Years Combined

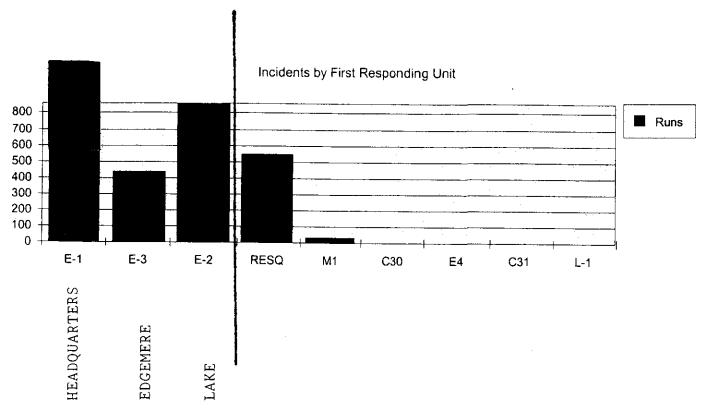
There are 11,035 records in the Incidents Table. Between Tuesday, January 01, 2002 and Thursday, December 15, 2005 there were 10,085 incidents. Currently there are an average of 6.98 noidents per day. Average response time for the department is 3.89 minutes. The average duration of an incident is 20.33 minutes.



## Statistical Summary

incidents by station arriving first

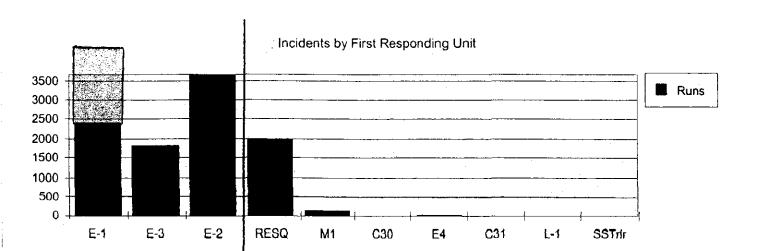
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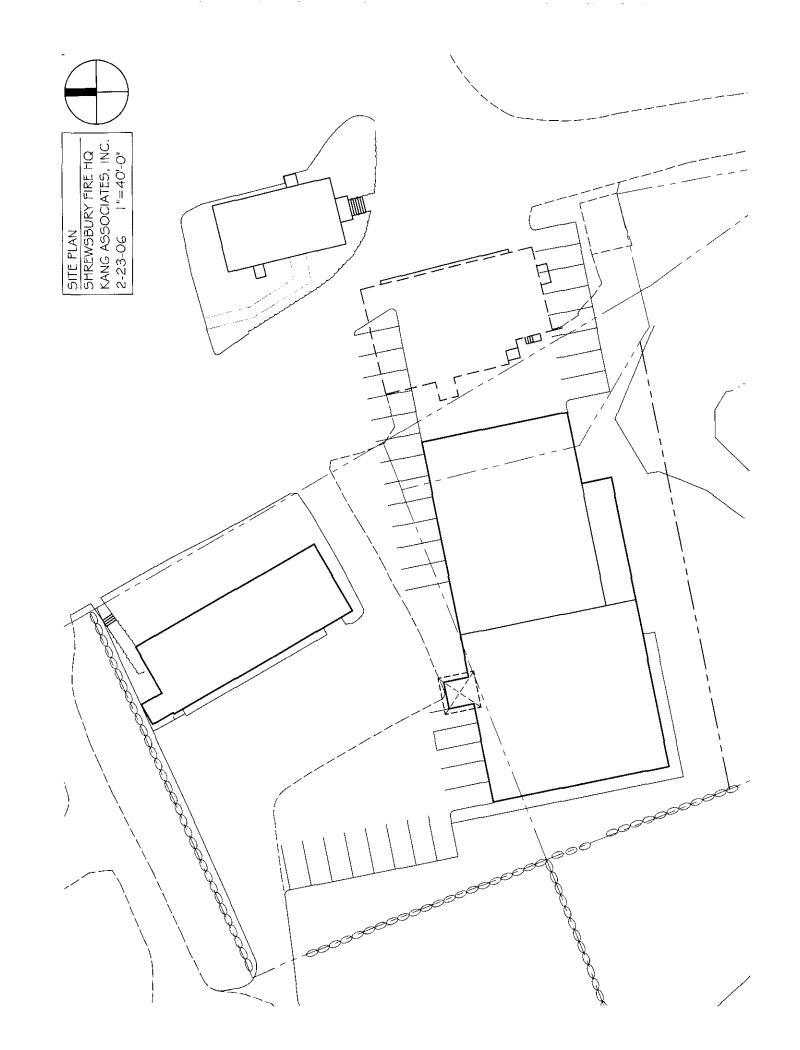


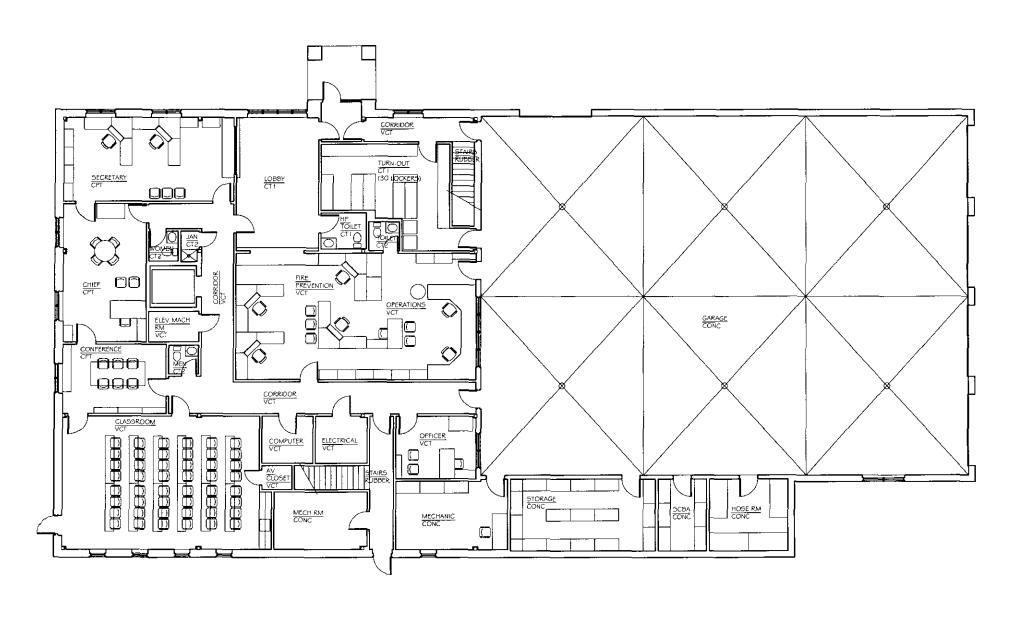
## **Statistical Summary**

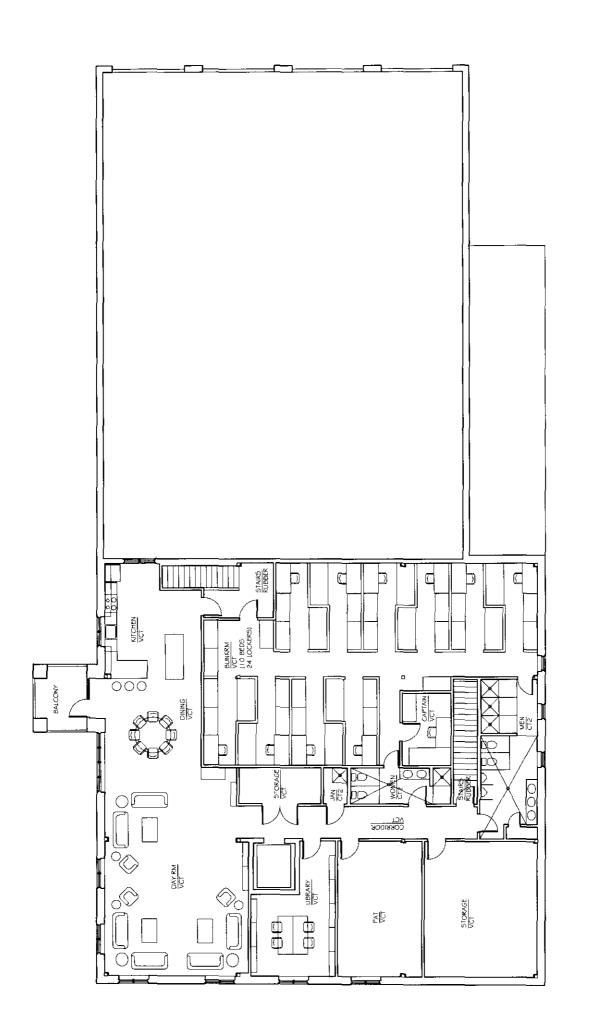
Emergency Calls by Station Last Three Years Combined

There are 11,035 records in the Incidents Table. Between Tuesday, January 01, 2002 and Thursday, December 15, 2005 there were 10,085 incidents. Currently there are an average of 6.98 ncidents per day. Average response time for the department is 3.89 minutes. The average duration of an incident is 20.33 minutes.





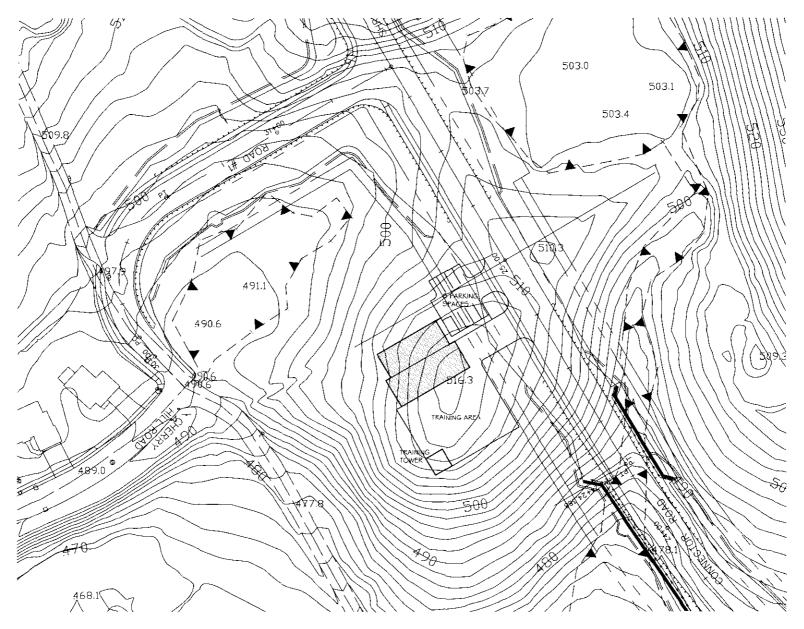




SECOND FLOOR PLAN
SHREWSBURY FIRE HQ
KANG ASSOCIATES, INC.
2-23-06 1/16"=1'-0"

## **SUMMARY**

	Gross Floor Area =		16,304		
<u>Division</u>			Cost \$	<u>\$/sf</u>	<u>%</u>
Foresisting The			60.774	2.05	2.579/
Excavation, Etc.			62,774	3.85 21.30	2.57% 14.23%
Concrete			347,199	16.26	10.87%
Masonry			265,179 216,087	13,25	8.85%
Metals Wood and Plastics			47,519	2.91	1.95%
			185,329	11.37	7.59%
Thermal and Moisture Protection					6.41%
Doors and Windows			156,487	9.60	
Finishes			196,505	12.05	8.05%
Specialties			28,445	1.74	1.17%
Equipment			2,325	0.14	0.10%
Furnishings			43,455	2.67	1.78%
Special Construction			0	0.00	0.00%
Conveying			70,298	4.31	2.88%
Plumbing			112,189	6.88	4.60%
Fire Protection			75,456	4.63	3.09%
HVAC			413,724	25.38	16.95%
Electrical			217,328	13.33	8.91%
Sub-Total Building			2,440,298	149.67	100.00%
Site Work/Site Utilities			492,332	30.20	
Sub-Total Construction			2,932,630	179.87	
General Requirements/Special Condi	tions		547,686	33.59	
Escalation to bid date of 4Q2006		7.50%	261,024	16.01	
Design Contingency		6.00%	224,480	13.77	
Factor for Current Economic Climate		1.00%	39,658	2.43	
Construction Contingency		10.00%	396,582	24.32	
Total Construction Cost			4,402,060	270.00	



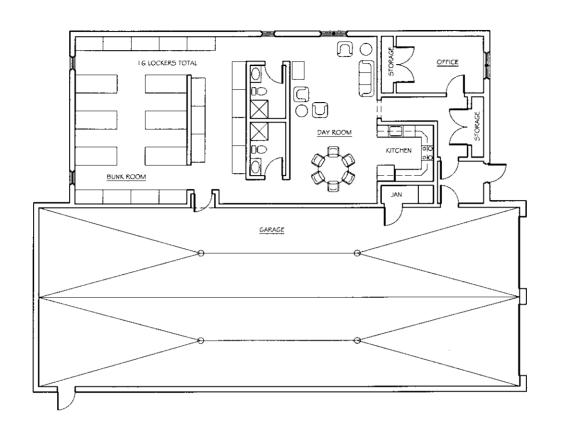
SCHEME A

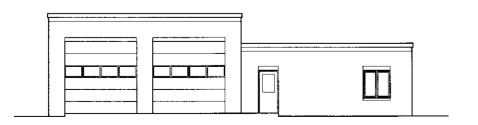
SHREWSBURY FIRE STATION #3 KANG ASSOCIATES, INC.

2-16-06

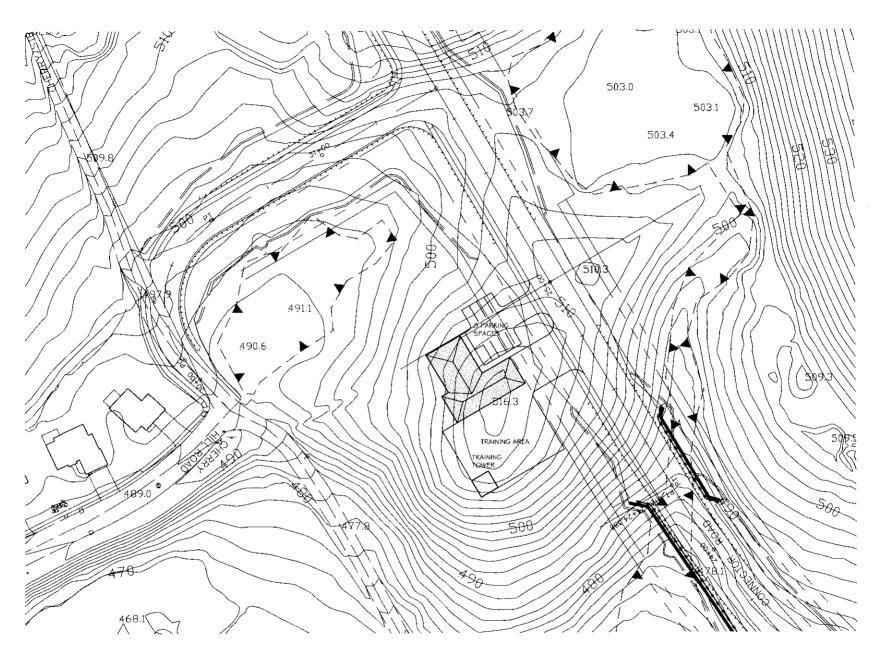
1"=100'





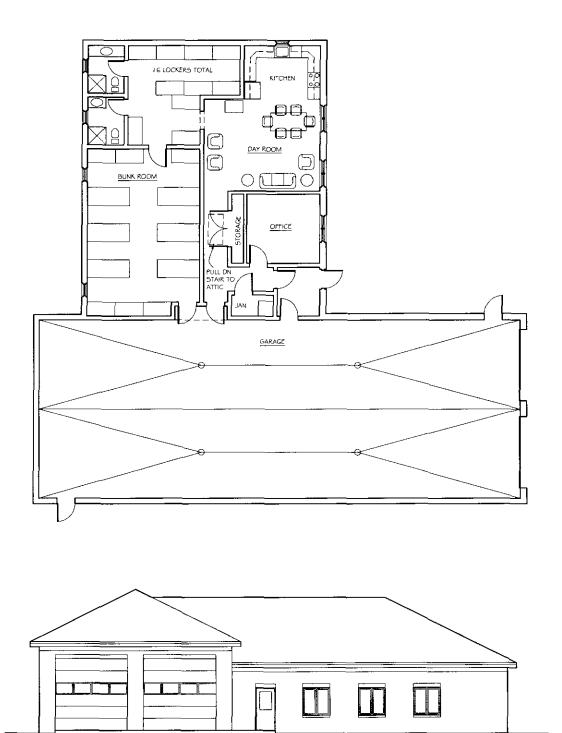


SCHEME A
SHREWSBURY FIRE STATION #3
KANG ASSOCIATES, INC.
2-15-06 1/16"=1'-0"



SCHEME B
SHREWSBURY FIRE STATION #3
KANG ASSOCIATES, INC.
2-16-06 | | "= 100"





## **Station No. 3 Construction Options**

Building Element	1a	1b	1c	1d	2	3a	3b
Load-bearing structure					_		
8"CMU	•	•	•	•			
2x6 studs					•		
steel columns		<u> </u>				•	•
Roof structure				_			
wood trusses	•	•			•		•
steel beams & joists			•	•		•	•
Exterior back-up walls							
8" CMU	•	•	•	•			
2x6 studs					•		
6" metal studs						•	•
Interior finish of exterior walls							
CMU	•	•	•				
GWB					•	•	•
Interior non-load bearing walls							
6" CMU	•		•				
2x4 studs					•		
3%" metal studs		•		•		•	•
Interior finish of interior walls							
CMU	•		•				
GWB		•		•	•	•	•

#### Station #3

#### **DIVISION 2 - SITEWORK**

- 1. Trench for new underground utilities.
- 2. Excavate and backfill for foundations.
  - a. Foundation for fire tower.
- 3. Rough and finish grading.
- 4. New asphalt paving.
- 5. Cape cod berms.
- 6. Connections to all site utilities.
- 7. Allowance for site lighting.

#### **DIVISION 3 - CONCRETE**

- 1. Concrete foundation.
- 2. New slab-on-grade.

#### **DIVISION 4 - MASONRY**

- 1. Northeast and northwest walls: brick.
- 2. Back-up walls: see construction options.
- 3. Interior walls: see construction options.

#### **DIVISION 5 - METALS**

- 1. Framing: see construction options.
- 2. 6" diameter concrete filled pipe bollards 1 pair for each garage door.

#### **DIVISION 6 - WOOD AND PLASTICS**

- 1. Roof framing: see construction options.
- 2. Interior walls: see construction options.
- 3. Misc. blocking.

#### **DIVISION 7-THERMAL AND MOISTURE PROTECTION**

- 1. Roofing:
  - a. Asphalt shingles with gutters and downspouts.
  - b. EPDM with roof drains.
- 2. Southeast and southwest walls: metal panel.
- 3. Sealants
  - a. Bathroom sealants.
  - b. Interior and exterior sealants.
- 4. Insulation: see construction options.
- 5. Dampproofing: see construction options.

#### **DIVISION 8 - WINDOWS AND DOORS**

- 1. Metal doors and frames throughout.
- 2. Metal sectional garage doors with vision lites.
- 3. Hardware for all doors.
- 4. Aluminum windows.

#### **DIVISION 9 - FINISHES**

- 1. Floors: VCT throughout administrative area.
- 2. Interior walls: see construction options.
- 3. Ceilings
  - a. Water-resistant GWB in garage.
  - b. 2x4 lay-in acoustic ceiling tiles in administrative area.
- 4. Paint all paintable interior and exterior surfaces.

#### **DIVISION 10 - SPECIALTIES**

- 1. Toilet accessories for bathroom.
- 2. Louvers as required for heating system, elevator ventilation, bathroom exhaust fan.
- 3. Exterior building sign.

#### **DIVISION 11 - EQUIPMENT**

- 1. Refrigerator.
- 2. Stove.
- 3. Dishwasher.
- 4. Range hood.

#### **DIVISION 12 - FURNISHINGS**

- 1. Kitchen cabinets.
- 2. Bathroom lavatories.
- 3. Bunk room lockers.

#### **DIVISION 13 - SPECIAL CONSTRUCTION**

1. Fire tower.

#### **DIVISION 14 - CONVEYING SYSTEMS - Not Used.**

#### **DIVISION 15 - MECHANICAL**

- 1. Plumbing
  - a. Bathroom fixtures.
  - b. Kitchen sink.
  - c. Hot water tank.
  - d. Water piping.
  - e. Sanitary piping.
  - f. Drainage piping.

- g. Gas piping.
- h. Insulate all hot and cold water pipes.
- i. Utility sink in garage.
- j. Oil/sand separator.
- k. Hose bibs.
- 1. Floor drains in garage.

#### 2. HVAC

- a. Gas fired 5 ton roof top unit.
- b. Exhaust fan in bathroom.
- c. Gas fired radiant heating in garage.
- d. Vehicle exhaust system.

#### **DIVISION 16 - ELECTRICAL**

- 1. 2x4 fixtures in administration area.
- 2. 1x4 fixtures in garage.
- 3. New electrical service.
- 4. Wire for computers and telephone to office.
- 5. Fire alarm system to meet ADA.
- 6. Emergency generator.



February 22, 2006

Ms Kaffee Kang Kang Associates Inc. 410 Boston Post. Rd Sudbury, MA 01776 Phone: 978-443-6383

Phone: 978-443-6383 Fax: 978-443-1360

Email: kk@kangarchitects.com

Subject:

**Proposal for Fire Station Site** 

Centech Blvd. Shrewsbury MA

**PSI Proposal No. 444-650034** 

#### Dear Ms Kang:

Professional Service Industries Inc. (PSI) is pleased to submit this proposal to provide geotechnical engineering services in connection with a new satellite fire station on existing Town property along Centech Blvd in Shrewsbury, Massachusetts. This proposal is based upon your request dated February 21, 2006.

#### Project Understanding

We understand that the Town of Shrewsbury Fire Station Building Committee has included a third fire station to the proposal that they will present to Town meeting this spring. The proposed fire station will be a satellite located on Town property along the new Centech Blvd in Shrewsbury, Massachusetts. Since the project is in the feasibility study phase, little is known regarding the structure. PSI understands that there are currently 2 schemes for the building on site although both schemes will place the building within the same approximate area of the site.

Although the project is in the feasibility phase of study, the work that PSI completes as part of this study can be used for final design purposes provided that the actual building footprint lies within the area explored. We will provide a summary letter during this phase outlining subsurface conditions, feasible foundation alternative and earthwork considerations. This letter will not be sufficient for final design but is intended to present information to be used as part of your study. If the project proceeds to final design, we will use the existing information and prepare a geotechnical engineering report summarizing findings and presenting design recommendations. If the building footprint changes to a significant degree then additional explorations might be required. The geotechnical report for design purposes is not included in the scope and fee at this time.

Fire Station Study Shrewsbury, Massachusetts PSI Proposal No. 444-650034

#### Proposed Scope of Work

We propose to perform the geotechnical services described below:

- 1. Exploration Markout and Utility Clearance PSI will mark the boring locations based on a plan provided by Kang Associates provided ties are available for locating the borings. This proposal does not include survey to stake out the borings or provide borehole elevation. We understand that if this work is required, it will be provided by the Town. The drilling subcontractor will contact the utility clearance agency, Dig Safe System, Inc. and the Town of Shrewsbury to assist the owner in locating underground utilities at the site. However, it should be noted that there may be additional underground features, including private utilities and underground structures at the site. PSI will not assume responsibility for damage to unmarked or mismarked underground features.
- 2. Soil Borings —We will engage a drilling subcontractor (the drillers) for one day to provide up to four soil test borings to a depth of 25 feet or refusal whichever occurs first. However, these depths might be revised by PSI's field engineer based on actual subsurface conditions. If shallow refusal is encountered, rock cores might be taken to verify rock depending upon the depth to refusal and the field engineer's judgment. The drillers will perform standard penetration tests (SPT) and obtain split-spoon samples at intervals determined by the PSI field representative. The borings will be backfilled with the soil cuttings.
- 3. <u>Field Engineer</u> We will provide a field engineer at the site to coordinate and observe the borings, and prepare field logs. We expect that the work will take one day to complete. If we observe evidence of contamination in the borings we will halt the drilling and notify you. Our services do not include environmental consulting.
- 4. <u>Preliminary Geotechnical Report</u> We will perform an assessment of subsurface conditions and provide an electronic copy of the summary report outlining our finding with respect to foundations and earthwork.
  - Summary of the subsurface exploration methods used;
  - Description of the subsurface conditions;
  - Depth to groundwater and refusal, if encountered;
  - Plan showing approximate boring locations;
  - Boring logs;
  - Preliminary finding regarding foundations and earthwork.

Based on our understanding of the project, allowable unsupported excavation slopes, stormwater management, erosion control, and cost or quantity estimates are not included in this scope.

The services proposed herein are conventional in nature and do not include any special services that may lessen the risk of conditions that can contribute to moisture, mold or other microbial contaminate amplification in buildings. You may be aware that mold is abundant throughout nature and is comprised of a wide variety of microscopic fungi. Due to its nature, the potential for mold infestations cannot be completely eliminated.



Fire Station Study Shrewsbury, Massachusetts PSI Proposal No. 444-650034

#### Project Fee

PSI will perform the preliminary scope of work described above for a lump sum fee of \$4325 which includes one day of explorations, fieldwork and letter. PSI's work will be conducted in accordance with the terms and conditions of the attached PSI General Conditions.

No additional services beyond the above mentioned scope of services would be provided without your prior knowledge. If site conditions or the client's needs necessitate a change in the scope of work, PSI will prepare a work request authorization for the client's approval that summarizes the changes to the project scope and fee. The fee is based on the following additional conditions:

- Our field work will be completed in one day.
- Our field work will be performed during normal working hours.
- The project is not subject to prevailing wage requirement.

#### Project Schedule

Upon receipt of a signed contract, PSI will schedule the drilling service. We expect that drilling can begin within 2 weeks of notice but subject to the driller's availability. PSI can provide the letter within 2 weeks after completing the explorations.

#### Terms and Conditions

We propose to perform our work in accordance with PSI's General Conditions (attached). Your acceptance of this proposal by signing and returning one complete copy will form our agreement for these services, and will serve as written authorization to proceed with the described scope of work. If you wish to issue a purchase order, the purchase order must reference this proposal and state that you accept PSI's proposal including PSI's General conditions.

We trust that this proposal meets your needs. If this proposal is acceptable, please sign and return one copy to PSI. If you have any questions, please call us.

Jenniler A. C. MacGregor., P.E.

Georechnical Engineer

Sincerely,

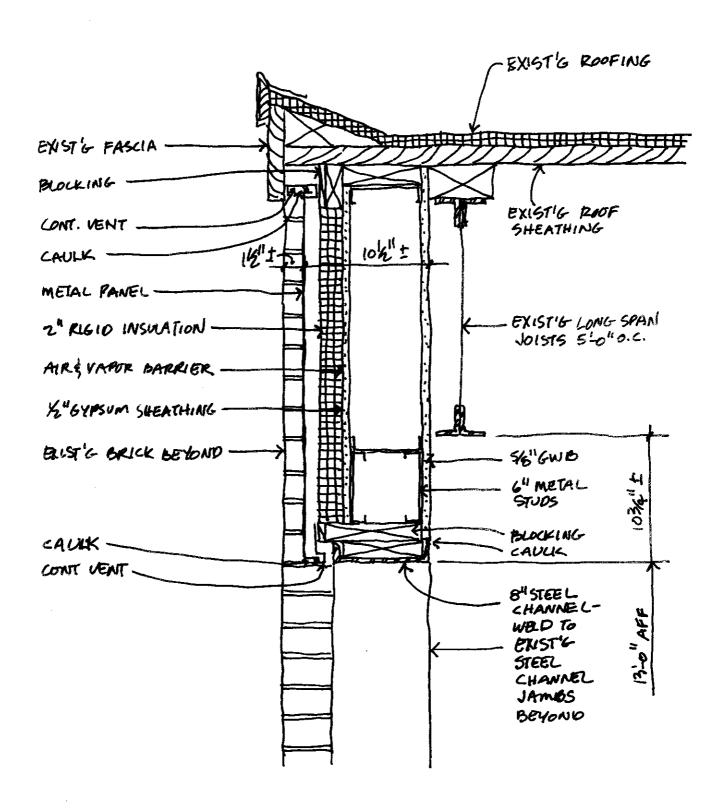
PROFESSIONAL SERVICE INDUSTRIES, INC.

Richard P. Weber, P.E.

Geotechnical Department Manager

Enclosures: PSI General Conditions

[psi]



STATION #2 GARAGE DOOR HEAD

150 KANG ASSOC. INC 2-23-06

## **SUMMARY**

	Gross Floor Area =	3,761	
<u>Division</u>		Cost \$	<u>\$/sf</u>
Dogga (Maria		44.400	40.0E
Demolition Concrete		41,188	10.95 0.77
Masonry		2,878 25,047	6.66
Metals		25,047	0.00
Wood and Plastics		3,611	0.96
Thermal and Moisture Protection		31,066	8.26
Doors and Windows		62,665	16.66
Finishes		21,273	5.66
Specialties		5,475	1.46
Equipment		2,325	0.62
Furnishings		9,550	2.54
Special Construction		0	0.00
Conveying		0	0.00
Plumbing		38,337	10.19
Fire Protection		0	0.00
HVAC		71,504	19.01
Electrical		99,334	26.41
Sub-Total Building		414,253	110.14
Site Work/Site Utilities		0	0.00
Sub-Total Construction		414,253	110.14
General Requirements/Special Conditions	s	99,768	26.53
Escalation to bid date of 4Q2006	7.50%	38,552	10.25
Design Contingency	5.00%	27,629	7.35
Factor for Current Economic Climate	1.00%	5,802	1.54
Construction Contingency	5.00%	29,010	7.71
Total Construction Cost		<b>0</b> /	400 ==
Total Construction Cost		615,013	163.52

## OFFICE OF THE TOWN MANAGER



Richard D. Carney Municipal Office Building 100 Maple Avenue Voice: 508-841-8508 Fax: 508-842-0587 dmorgado@th.ci.shrewsbury.ma.us

# Town of Shrewsbury MASSACHUSETTS 01545-5398

February 17, 2006

To: Fire Station Building Committee

From: Daniel J. Morgado

Re: Next Meeting

The next meeting of the Fire Station Building Committee will be <u>Thursday</u>, <u>February 23, 2006</u> at 7:00 PM in the Selectmen's Meeting Room located at the Municipal Office Building, 100 Maple Avenue to consider the following agenda:

#### **AGENDA**

- 1. Call to Order
- 2. Accept minutes of February 2, 2006 (attached)
- 3. Act on any necessary bill schedules
- 4. Review and approve scope of work proposal Station #3 (attached)
- 5. Hear presentation from Chief LaFlamme
- 6. Review building and site plan schemes for proposed Station #3 (attached)
- 7. Set future meeting schedule
- 8. Adjourn

Please advise with any questions.

Cc (via Email)

Kaffee Kang

Harold Stuart Kevin Samara Richard Ricker Michael Hale

Parks and Cemetery Commission c/o Angela Snell

Michael D'Errico

#### FIRE STATION BUILDING COMMITTEE February 2, 2006

Present:

Bruce Card, Robert Cox, Anthony Mastromatteo, Daniel Morgado

Absent:

Pat Sacco, Ralph LeBlanc, Gerald LaFlamme

Also present: Thomas Fiore, Maurice Depalo, John Lebeaux, Thomas Fiore, Mr.

Hammond, Kaffee Kang

On a motion by Mr. Mastromatteo, second by Mr. Cox the minutes of December 1, 2005 were accepted.

On a motion by Mr. Mastromatteo, second by Mr. Cox the Committee voted to approve three bill schedules totaling \$18,787.04.

The Committee meet in joint session with the Board of Selectmen to review the status of the project. Mr. Morgado provided materials (attached) to each member to guide the process as a number of decisions were necessary in order to restart the project.

Members of the Board of Selectmen provided their observations and commentary. The strong consensus was that the issue of response times in the southeast quadrant must be addressed in the next proposal. There was support expressed for the renovation of Station Two and to replace the Fire HQ. Mr. Card expressed support for a police/fire complex on Maple Avenue with an access road to Main Street. This coupled with a new sub station in the CenTech area would allow for both existing Station #3 & #2 to be closed in a addition the existing Fire HQ can be re-used.

Ms. Kang presented so rough sketches of the Fire HQ and CenTech facilities (attached)

Members of the Committee also expressed their opinions.

After an extended period of discussion including taking comment from those citizens in attendance, the following elements of a new proposal were identified.

- Renovate Station #2
- Construct a (2) bay facility in the CenTech area
- Build a new Fire HQ at the Town Center that is a (3) or (4) bay back in facility which saves the Cemetery garage from demolition.

The Board also directed that a Special Town Meeting will be scheduled to address this issue for April 24<sup>th</sup> or 25<sup>th</sup> depending on when the auditorium can be secured.

Additional issues will also be studied for informational purposes.

The next meeting of the Committee will be February 23, 2006.

Meeting adjourned at 8:30 PM

Respectfully submitted,

Daniel J. Morgado Town Manager Architecture Interior Design

410 Boston Post Road Sudbury, MA 01776

lel. 978,443,6383 fax: 978,443,1360

em. webmail@kanganthitects.com

www.kangarchitects.com

February 13, 2006

Mr. Daniel Morgado Town Manager Town of Shrewsbury 100 Maple Avenue Shrewsbury, MA 01545-5398

Re: Station #3 at Centech Blvd.

Dear Dan:

As requested, we are pleased to submit this proposal to provide preliminary design services for a new fire station on Centech Blvd. We propose to provide the following services for a fee of \$6,620:

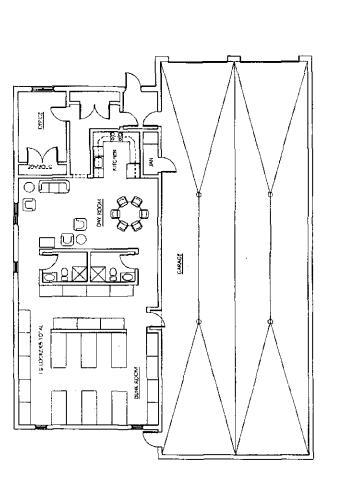
- 1. Meet with Fire Station Building Committee as required.
- 2. Review existing information and documents.
- 3. Develop alternative building designs.
- 4. Develop alternative site plans.
- 5. Develop outline specifications of selected design.
- 6. Develop cost estimate for selected design.

Please note that this study does not include mechanical, electrical, civil, or geotechnical engineering. Services of these consultants can be provided as an additional service at a rate of itl times the consultants' invoices.

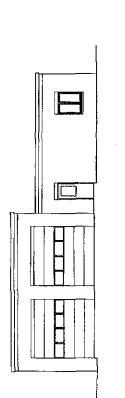
Hopefully, our proposal accurately interprets the scope of services as you intended. Should you have any questions, please do not hesitate to contact me.

/ /

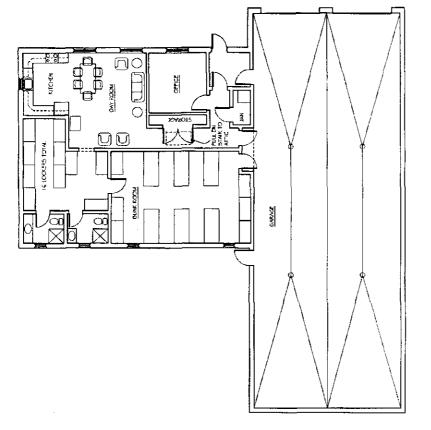
Kaffee Kang



SCHEME A PLAN



SCHEME A ELEVATION



SCHEME B PLAN

SCHEME B ELEVATION

